

Texas Commission on Environmental Quality

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Public Drinking Water Section (MC-155)
Water Supply Division



Speaking Backflow



History of Cross-connections



Authority

The Texas Health & Safety Code
§341.033 Protection of Public
Water Supplies



Texas Administrative Code

Rules & Regulations for Public Water Systems

Revised RG-195 February 2004



Cross-connection Control



§290.44(h) & Appendices

- ▶ Requirements
- ▶ Prevention
- ▶ Records
- ▶ Lisenced/ Certification



Requirements



Classifications

- ▶ **Health hazard** - involves a substance that can cause death, illness, spread disease or has a high probably of causing such effects.
- ▶ **Nonhealth hazard** - involves a substance which is not a health hazard, but is a nuisance, or is aesthetically objectionable.



Definition

§290.38

Potential contamination hazard -
a condition which by its location, has a
reasonable probability of being used
incorrectly



Backflow, siphonage

§290.44(h)(1)

No water connection from any public drinking water supply system shall be allowed to any residence or establishment where an actual or potential contamination hazard exists unless



Backflow, siphonage

§290.44(h)(1)(A)

The type of backflow prevention assembly required shall be determined by the specific potential hazard identified in Appendix I



Frequency of Testing for Backflow Assemblies

§290.44(h)(4)

Tested upon installation

installed for a health hazard must be
tested at least annually



Prevention



Compliance §290.44(h)

§290.46(j)

A Customer Service Inspection (CSI) shall be completed prior to providing continuous water service when ...

- ▶ New construction or Material improvement
- ▶ Water purveyor believes a cross-connection exists



Prevention of Cross-connections

§290.46(i)

Public water systems must adopt an adequate plumbing ordinance, regulations, or service agreement



Type of Backflow Prevention

- ▶ Air Gap - twice the diameter of pipe, no less than 1" inch



Approved Backflow Prevention Assemblies for Hazards



Assemblies

- ▶ RPBA - (reduce pressure principle assembly) health and non health
- ▶ PVB - (pressure vacuum breaker) only installed for back siphonage
- ▶ AVB - (atmospheric vacuum breaker) only installed for back siphonage
- ▶ DCVA - (double check valve assembly) only installed for non health



- ▶ **Assemblies have specific conditions for installation and testing, reference AWWA M14 Manual or the USC's Manual**



Records



Backflow Assembly Test Reports

- ▶ The test report must be completed by a TCEQ certified tester for each assembly tested.
- ▶ Original must be submitted to the water system.
- ▶ Water Systems must accept TCEQ's form in Appendix F



Customer Service Inspection Certificate

- ▶ Shall be completed by a qualified inspector
- ▶ Maintained for ten (10) years



Customer Service Agreement

- ▶ Shall prohibit cross-connections and unacceptable plumbing practices
- ▶ Signed by customer



Altered/Changed forms

Any form which varies from the format specified in appendices of this title ... must be approved by the TCEQ prior to being placed into use.



Licenced/Certification



Backflow Assembly Tester Certification

Texas Commission on Environmental Quality

- ▶ Attend a Commission approved course
- ▶ Pass Examination



Qualified Inspectors

Texas State Board of Plumbing Examiners:

- ▶ Plumbing Inspectors
- ▶ Water Supply Protection Specialists
(Endorsement)



Qualified Inspectors

Texas Commission on Environmental Quality

- ▶ Customer Service Inspection
Licenses



Areas of Concern



Fireline Testeing

§290.44(h)(4)(A)(ii)

Backflow Prevention Assembly Testers
on firelines, must contact the State Fire
Marshall's Office



Internal Protection

§290.44(h)(5)

The use of a backflow prevention assembly at the service entrance shall be considered additional protection and shall not negate the use of internal protection as outlined and enforced by local plumbing codes.



Is containment at all meters necessary?

§290.44(h)(6)

At any residence or establishment where there is no actual or potential contamination hazard, a backflow prevention assembly is not required.



Helpful Guidance

Regulatory Guidance -206

A Public Water Systems Guide to Customer Service Inspections



General Information

Where Applicable

- ▶ TCEQ 290.44(h) rules are minimum
- ▶ PWS can be more stringent than 290.44(h) rules
- ▶ Protection of Public Drinking Water is the primary objective



References for Cross-Connection Control

American Water Works Association
(AWWA) Manual M14

(800)926-7337

www.awwa.org

University of Southern California -
Manual of Cross-Connection Control

(213) 740-2032



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